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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,626	10/24/2003	Carl W. Gerst III	C03-006	1510
23459	7590	12/01/2006	EXAMINER TRAIL, ALLYSON NEEL	
ARTHUR J. O'DEA LEGAL DEPARTMENT COGNEX CORPORATION ONE VISION DRIVE NATICK, MA 01760-2077			ART UNIT 2876	PAPER NUMBER

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/693,626

Applicant(s)

GERST ET AL.

Examiner

Allyson N. Trail

Art Unit

2876

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/15/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22 is/are allowed.
- 6) ☒ Claim(s) 1-19 and 23-35 is/are rejected.
- 7) ☒ Claim(s) 20 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/25/2005 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendment

1. Receipt is acknowledged of the Amendment filed September 15, 2006.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4, 5, 7, 8, 30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattersley et al (2002/0000472), hereinafter Hattersley.

With respect to claims 1, 30, and 32, Hattersley teaches in figure 4 an illuminator 20 for illuminating a subject that is imaged by an image sensor. The illuminator includes at least one light pipe 30 (shown in figure 5). Figure 4 illustrates a first ring light source 28. Given the broadest interpretation of both the prior art and the claim language, each LED shown in figure 4 is considered a ring light source. Using this interpretation, there are numerous light sources shown in figure 4. The first (as well as the additional) ring light source is arranged on the perimeter of a predetermined shape. The predetermined shape is the exit plane or flat surface of the bar code reader. This predetermined shape is clearly a shape of a rounded edged rectangle. The first ring light source communicates with a first light pipe defining a hollow tube (see paragraph 0031), which has a cross-section with the pre-determined shape, i.e., rectangular. The light pipe defines an inner lumen (from the LEDs 28), through which the sensor (60, shown in

Art Unit: 2876

figure 14) views the subject 12. The light pipe 30, includes a tip adapted to project a low-angle dark field illumination pattern on the subject (paragraph 0010).

Hattersley discloses in paragraph 0009, a controller that selectively controls predetermined portions of the first ring light source to project a variable light around the perimeter. "The scanner assembly includes a low-angle light delivery system that focuses the light from the scanner to the precise point where the light is needed, and at an angle at which problems from specular reflection are considerably reduced."

With respect to claim 4, Hattersley teaches that the predetermined shape defines a rectangle.

With respect to claim 7, Hattersley discloses in figure 2, that the predetermined shape conforms to the dimensions of a predetermined subject.

Additionally, with respect to claim 30, the illumination pattern (determined by the light pipe) clearly covers a reduced area with respect to the field of view. The reduced field of view created by the illumination pattern highlights an aiming location.

With respect to claim 5, Hattersley illustrates in figures 2, 3, 5, 7, 8, 12, and 13 that the predetermined shape defines a shape that reduces a field of view of the image sensor.

With respect to claim 8, Hattersley shows in figure 2, a handheld scanning appliance.

As discussed above, Hattersley teaches the predetermined shape in which the light rings are arranged being substantially rectangular and having rounded edges. The hollow tube also has a rectangular cross-section, however without rounded edges.

Art Unit: 2876

Although the shapes vary slightly (rounded and straight) the predetermined shape in which the light rings are arranged and the cross-section of the hollow tube are both substantially rectangular therefore having practically the same shape. Therefore in view of Hattersley's own teachings it would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the edges slightly simply for aesthetic purposes.

4. Claims 2, 11, 12, 14, 15, 17, 18, 23, 25-28, 31, and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattersley.

Hattersley's teachings are discussed above, including disclosing more than one light pipe. With respect to claim 12, see Hattersley's teachings above in regards to claims 1, 30, and 32. With respect to claims 14 and 25, see Hattersley's teachings in regards to claim 4. With respect to claims 15 and 26, see Hattersley's teachings above in regards to claim 30. With respect to claims 17 and 27, see Hattersley's teachings in regards to claim 7. With respect to claims 18, 28, and 33, see Hattersley's teachings above in regards to claim 8. With respect to claim 35, see Hattersley's teachings above in regards to claims 1, 30, and 32.

Hattersley however fails specifically teach the second light pipe to project a high-angle illumination pattern with respect to the subject.

Regarding claims 2, 11, 23, 31, and 34, although, not specifically disclosed, Hattersley explains in paragraph 0023, that there is a desire to enhance the detectability (i.e., readability) of the subject or symbol, especially where it has been laser etched on the surface. Hattersley further discloses in paragraph 0023 that laser etched areas are

Art Unit: 2876

more visible when illuminated at a high incidence angle relative to the normal.

Additionally, with respect to claim 34, the second light pipe taught by Hattersley may be considered to be a high-angle bright field illuminator located externally to the first light pipe disclosed in claim 34.

Therefore in view of Hattersley's own teachings it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the first and second light pipes taught by Hattersley with a tips adapted to project a low-angle dark field illumination and a high-angle bright field illumination respectively. As is disclosed by Hattersley, one would be motivated to use a high-angle illumination for imaging laser etched areas in order to enhance readability of the symbol.

5. Claims 3, 6, 13, 16, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattersley in view of Curry et al (2002/0030094), hereinafter Curry.

Hattersley's teachings are discussed above. Hattersley however fails to specifically teach the various shapes of the illuminator.

Curry discloses in the abstract, that the invention relates to a method and apparatus for identifying articles.

With respect to claims 3, 6, 13, 16, and 24, Curry illustrates in figure 25 the exit plane or flat surface of the scanning window being in the shape of a circle (curved edges).

In view of Curry's teachings it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the circularly shaped window exit surface of the scanner along with a light pipe as is taught by Hattersley. Although

Art Unit: 2876

Hattersley does not specifically teach the various shapes, Hattersley teaches above that the scanner assembly includes a low-angle light delivery system that focuses the light from the scanner to the precise point where the light is needed, and at an angle at which problems from specular reflection are considerably reduced. Therefore one would be motivated to use various shapes (circular) in order to obtain the desired illumination so that the problems from specular reflection are reduced.

6. Claims 9, 10, 19, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattersley in view of Patel et al(2003/0080189), hereinafter Patel.

Hattersley's teachings are discussed above. Hattersley however fails to specifically teach a beam to assist aiming the image sensor at the subject.

With respect to claims 9, 10, 19, and 29, Patel teaches in paragraph 0011, providing illumination and to assist in aiming of an imaging system. Patel teaches employing either lasers or light emitting diodes (LEDs) for assistance in aiming the image sensor.

In view of Patel's teachings it would have been obvious to one of ordinary skill in the art at the time the invention was made to use an aiming aid as is taught by Patel in combination with the image capturing device taught by Hattersley. One would be motivated include assistance in aiming in order to clearly depict the object that is to be scanned before the scanning or imaging occurs. An aiming system will help with accuracy.

Allowable Subject Matter

7. Claim 22 is allowable over prior art. Claims 20 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims.

The following is an examiner's for allowance: Although Hattersley teaches an illuminator for illuminating a subject that is imaged by an image sensor, which includes both a first/second ring and a light pipes, the above identified prior art of record, taken alone, or in combination with any other prior art, fails to teach or fairly suggest the specific limitations of claims 20-22 of the present claimed invention. In particular, prior art does not teach the claimed illuminator wherein each of the first light pipe and the second light pipe are mounted together with a securing ring sized and arranged to secure to a camera assembly. Secondly, prior art fails to teach the illuminator wherein the second ring is nested within the first ring and wherein the tip of the second ring is recessed with respect to the tip of the first ring so as to provide an area in an inner wall of the first ring adjacent of the tip of the first ring for projection of the low-angle dark field illumination pattern therefrom. The above limitations are not disclosed in prior art and moreover, one of ordinary skill in the art would not have been motivated to come to the claimed invention.

Response to Arguments

8. Applicant's arguments with respect to claims 1-35 have been considered but are not persuasive. It is believed that Hattersley clearly teaches the claimed limitations of

Art Unit: 2876

claims 1-19 and 23-35. The written rejection varies slightly from the previous Office action to more clearly point out how Hattersley reads on the pending claims.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Allyson N. Trail* whose telephone number is (571) 272-2406. The examiner can normally be reached between the hours of 7:30AM to 4:00PM Monday thru Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (571) 272-2398. The fax phone number for this Group is (571) 273-8300.

Art Unit: 2876

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [allyson.trail@uspto.gov].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Allyson N. Trail
Patent Examiner
Art Unit 2876
November 16, 2006


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